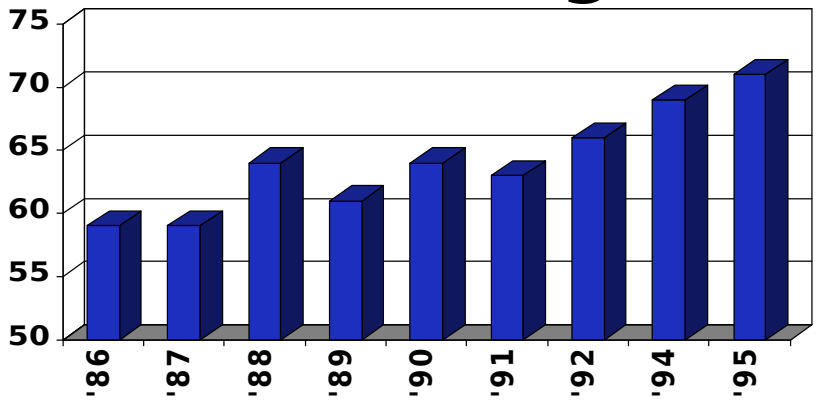
Who Wants to Be A Millionaire Diet Drug!

Maj Steve Black HQ USAFA/DFB 333-6063
Steve.Black@usafa.af.mil

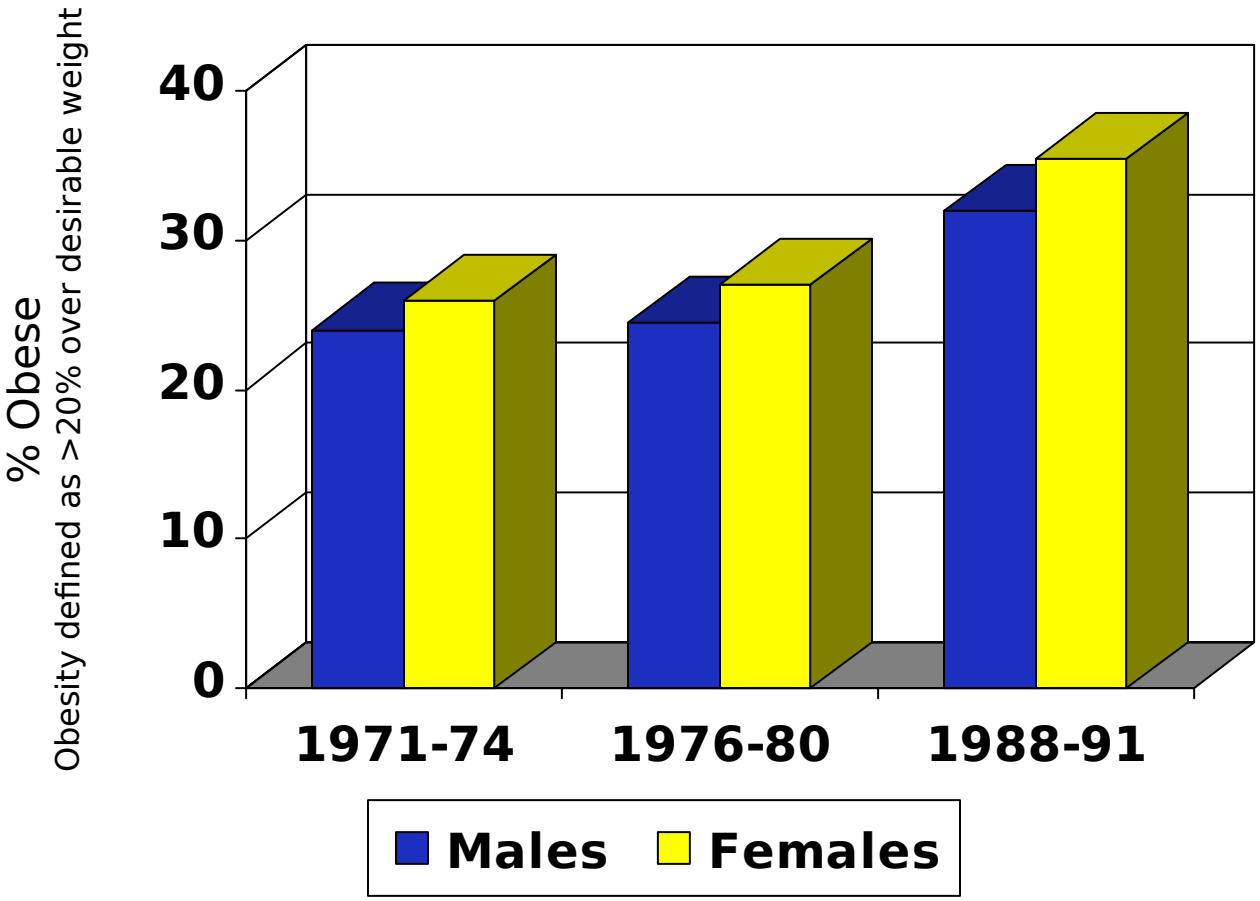
WHAT'S THE BIG DEAL?

- **Number of Overweight ↑↑**



- **Americans eating more & exercising less:**
  - ✔Calorie intake ↑ 200-300 per day
  - ✔More sedentary lifestyles; 30% do not exercise; equivalent 0f 300-400 cals per day less than 30 years ago

OBESITY ON THE RISE



Source: NHANES Data; Ernst, et al: Cardiovascular health risks related to overweight. JADA; 97: S47-S51, 1997

What's Being Done?

- $30 billion a year spent on weight loss
- Diet books continually on the Best Sellers list
- Fad diets come and go
- Make it seem simple to lose weight and keep it off

FAD DIETS

CHARACTERISTICS

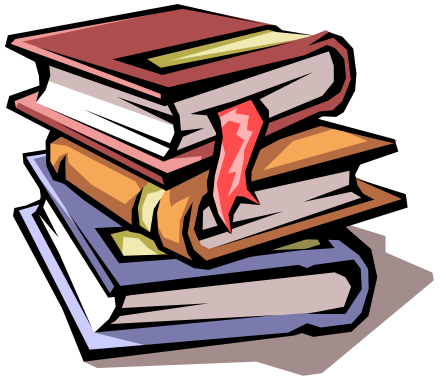
- **Promote quick & easy weight loss**
- **Limit types of food selections**
- **Rely on testimonials**
- **Promoted as cure-all**
- **Often need supplements/special foods**
- **No attempts to change long-term eating habits and lifestyles**
- **Often have contempt for the scientific & medical community**

Examples of Fad Diets:

- Scarsdale Diet
- Atkins Diet
- Cabbage Soup Diet
- Stillman Diet
- Astrological Diet
- Fit For Life Diet
- Personality Type Diet
- Paleolithic Diet
- The Zone Diet
- 40-30-30
- Hormonal Diet
- Watermelon Diet
- Fruit Diet
- Fasting
- Blood Type Diet
- Quick Weight Loss Diet
- Ketogenic Diet
- Grapefruit Diet
- Beverly Hills Diet
- Pasta Diet
- The Rice Diet
- Macrobiotic Diet
- Fructose Diet
- Pritikin Diet
- T-factor diet
- Drinking Man's Di

Diet Book Bestsellers

- Low-Carbohydrate Diets
  - ✔ “Dr Atkins New Diet Revolution”
  - ✔ “Protein Power”
  - ✔ “Carbohydrate Addicts Diet”
- Low Fat Diets
  - ✔ “Eat More, Weigh Less”
- “Sugar Busters”
- “The Zone Diet”
- “Eat Right For Your Blood Type”
- “The New Beverly Hills Diet”



Low Carb Diets

- **The Atkins Diet by Dr Robert Atkins**
  - ✔ First published in the 70's; then released as the "New" Atkins Diet Revolution
  - ✔ Now the best selling diet book of the late 90's
  - ✔ A low carbohydrate or "Ketogenic" Diet:
    - ➡ Very Low Carbohydrates
    - Starts with less than 20 grams per day
    - Maintenance = 25-70 grams per day
- **Similar Diet: Protein Power by Dr's. Michael and Mary Eades**
  - ✔ But contains ↓ sat. fat

Low Carb Diets

- **Potential Side Effects**
  - ✔ Dehydration
  - ✔ Promotes ketosis which can lead to general weakness, fatigue, gout or kidney stones, increased cholesterol & LDL, decreased cognitive abilities
- **Nutritional Concerns**
  - ✔ Low in fiber
  - ✔ Low in antioxidants & phytochemicals

Low Carb Diets:

How Effective?

- Early studies seemed to show low-carb diets yielded greater weight loss
- Longer studies did **NOT** confirm
- Difference in carbohydrate or fat content did not make a difference as long as calories were controlled for

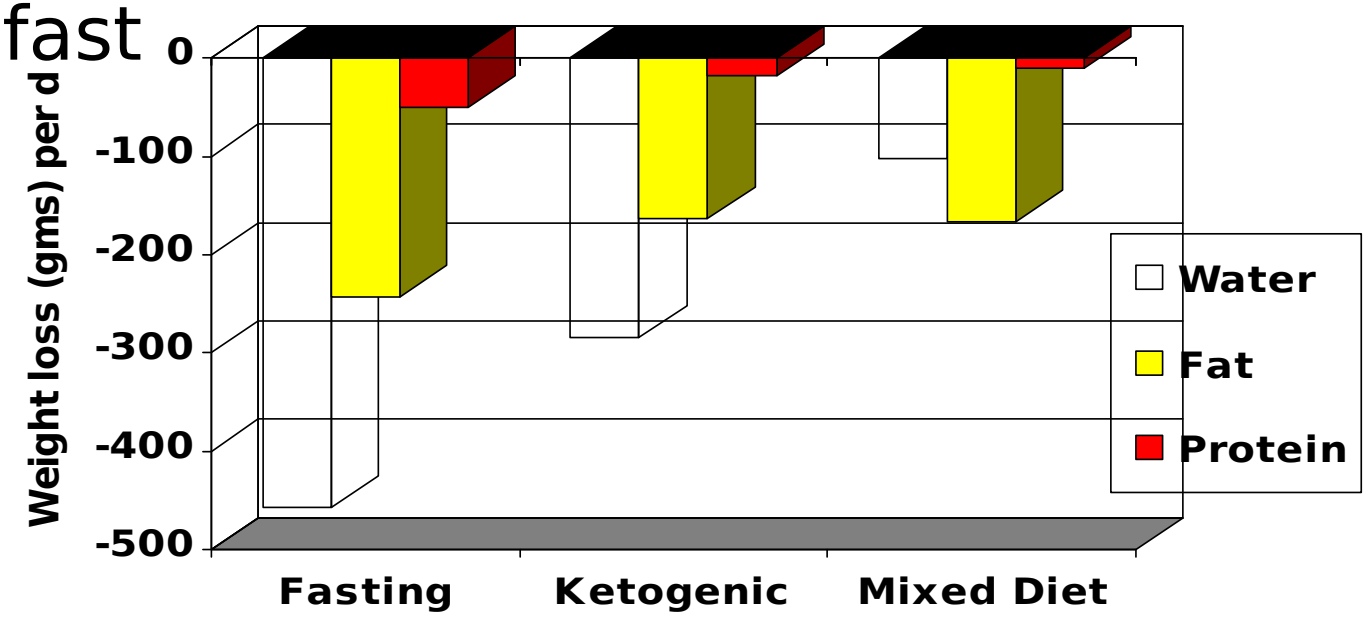
Low Carb Diets:

How Effective?

- Low-carb diets **DO** bring about rapid weight loss during first 2 weeks
- Decrease carb → deplete glycogen stores → diuresis (also because of ↑ ketones) → magical weight loss!
- Re-introduce carb = weight returns

Fallacy of Low-Carb Diets

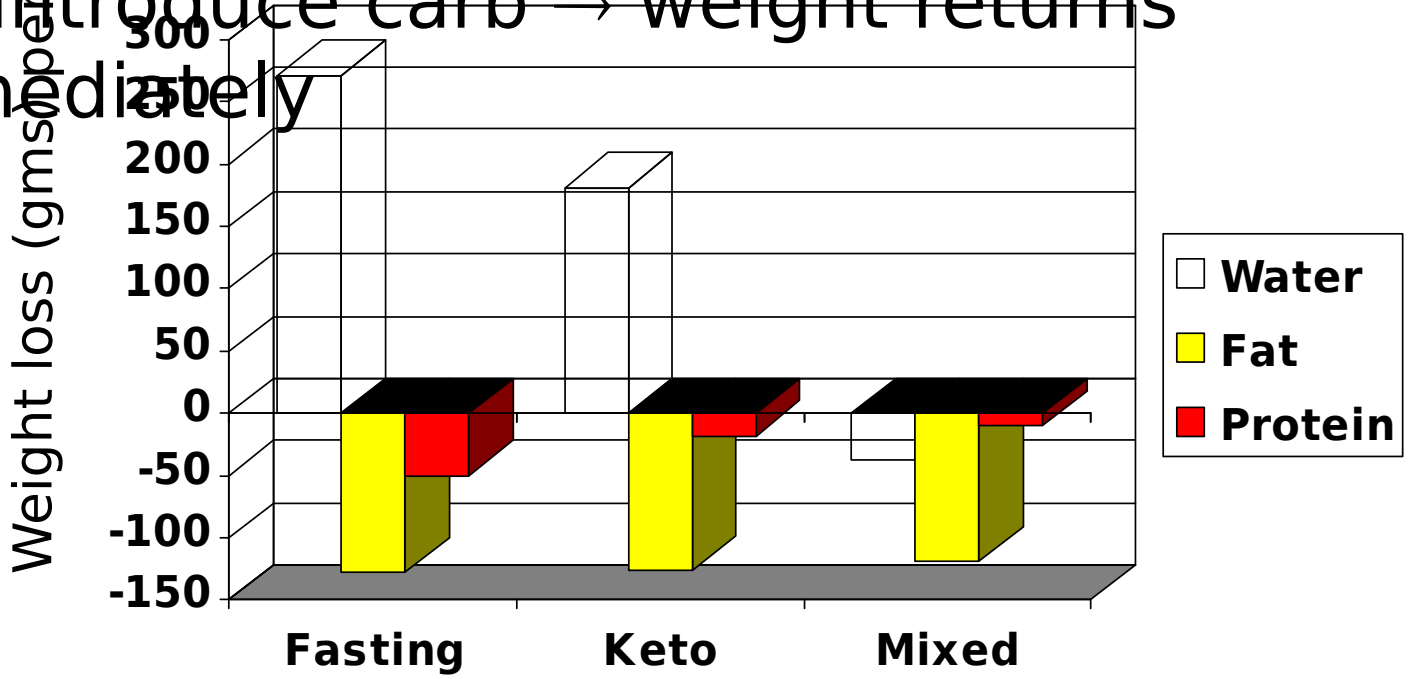
- 10-day Exp. w/ 3 Different Diets
- All 3 diets produced weight loss but water loss most sig. w/ ketogenic (low-carb) and fast



Yang MU, Van Itlie TB: *The composition of weight lost during short term weight reduction,* J Clin Investigation, 58:722-730, 1976

Fallacy of Low-Carb Diets

- All 3 groups then consumed 1200 calorie mixed diet
- Reintroduce carb → weight returns immediately



Yang MU, Van Itlie TB: *The composition of weight lost during short term weight reduction,* J Clin Investigation, 58:722-7

Low-Carb Diets

Variations on a Theme

- **The Carbohydrate Addicts Diet by Richard & Rachael Heller**
- **Must eat low-carb meals EXCEPT for 1 “reward meal” each day**
- **During “reward meal”, you can eat whatever you’d like, as much as you’d like**
- **Because of increased carb during this reward meal, unlikely to experience ketosis**

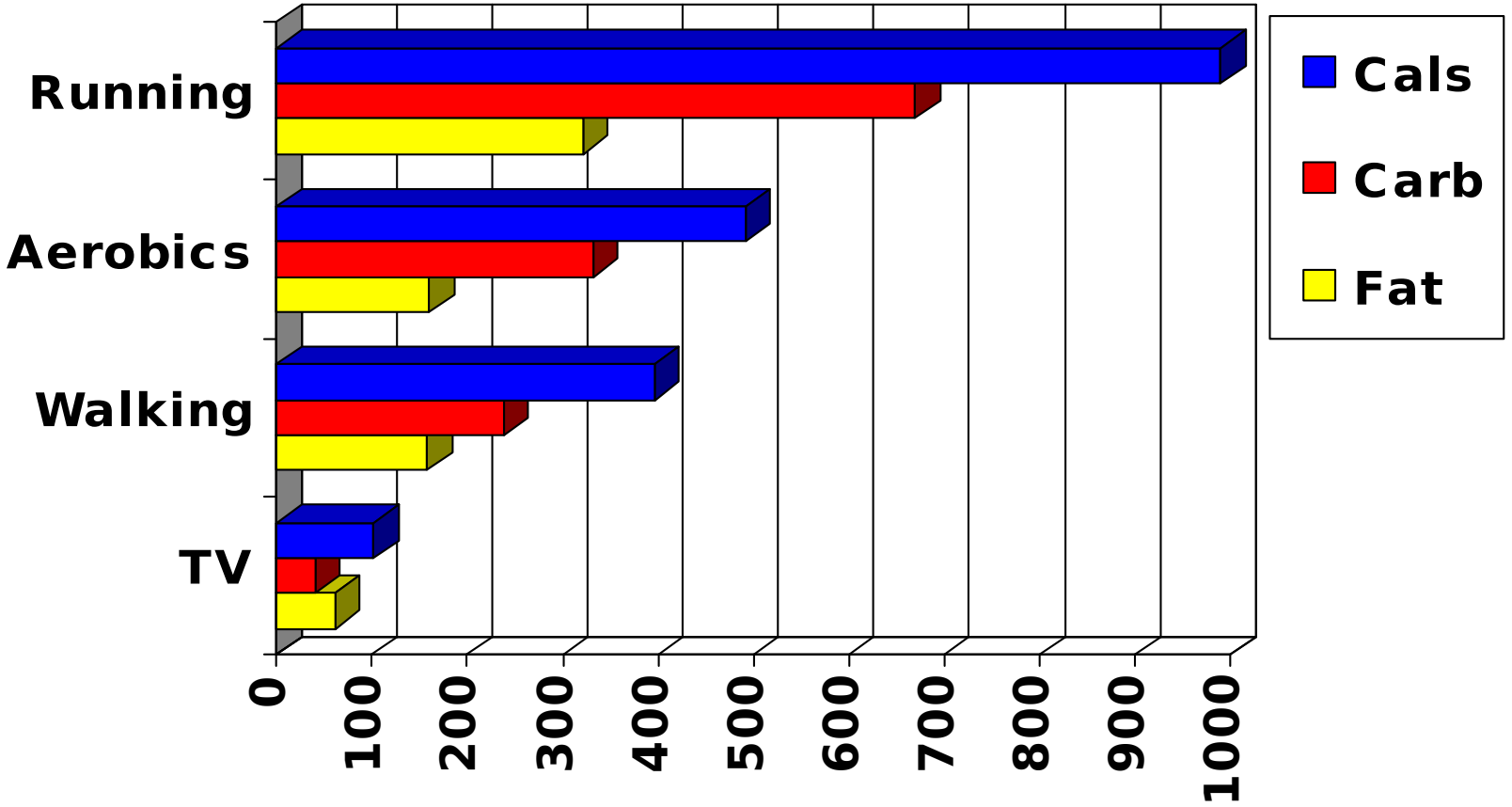
Low-Carb Diets
Variations on a Theme

- **Sugar Busters!** By Leighton, Bethea, Andrews and Balart
- Claims that all you have to do is cut out sugar – “sugar is toxic” -- and problems with weight, cholesterol and blood glucose will go away!
- Authors oversimplify but diet recommendations are moderate and include high-fiber carbs, lean proteins and unsaturated fats.
- Will not cause ketosis and unlikely to cause nutritional deficiencies.

Low-Carb Diets
Variations on a Theme

- **The Zone Diet By Dr. Barry Sears**
  - ✔ Another critic of carb, Sears says all meals & snacks must be in proper carb to prot ratio (40% Carb, 30% Prot, 30% Fat), keeps you “in the zone”
  - ✔ Regular, small meals (<500 cals) + 2 snacks
  - ✔ Does **NOT** cause ketosis
  - ✔ Calories are very low: 900-1500
  - ✔ Overall nutritional quality is good: low-fat prot. low fat; lots of veggies, fair amount of fruit & fiber
  - ✔ But Sears makes many exaggerated claims: the Zone Diet will help “treat any disease”; says you can burn more fat watching TV then by exercising

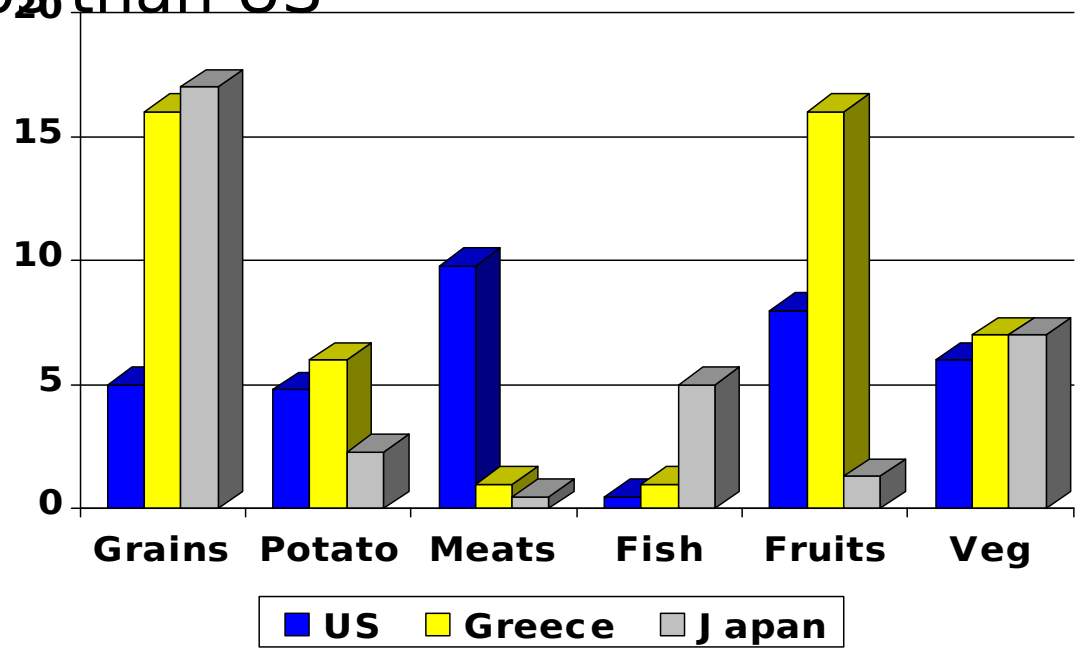
Burn More Fat While Watching TV??*



*From Back Cover of "Enter the Zone"; Data Source: McArdle, Katch & Katch, Exercise Physiolog

Carbohydrates & Heart Disease

- Low-carb advocates often say high-carb diets ↑ CVD risk
- Yet 2 countries with low CVD rates consume more carbs than US



Source: Willet, WC. *Science,* 264:532-537, 1994; from 1960 data

Other Best-selling Diets

- **Eat More, Weigh Less** by Dean Ornish, M.D.
- Diet challenges the low-carbohydrate trend
- A semi-vegetarian, very low-fat diet (less than 10% of calories from fat)
- Diet is part of a lifestyle program (↑ exercise, stress mgmt) shown to decrease weight and lead to regression of coronary artery disease
- Avoidance of so many foods (most meat, fish, & poultry, nuts, seeds, oils) makes it difficult to follow

- Onrush, D. et al: Can lifestyle changes reverse coronary heart disease? The Lancet, 336; 129-133, 1990

- Gould, K.L., Ornish, D.L, Scherwitz, I.; et al: Changes in myocardial perfusion abnormalities by positron emission tomography after long-term, intense risk factor

Other Best-selling Diets

- **Eat Right For Your Blood Type** by Peter D'Adamo, N.D
- Blood type (A, B or O) determines what foods you should eat. Type O = meat-eater; Type A = more vegetarian
- Believes lectins in foods cause agglutination
- **NO** evidence to support theory

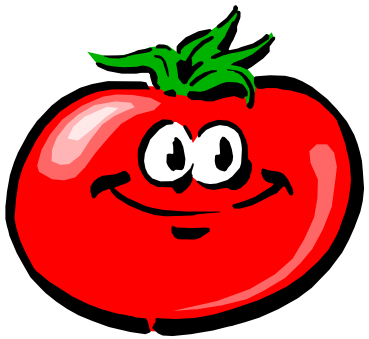
Other Best-selling Diets

- The **New Beverly Hills Diet** by Judy Mazel
  - ✔ Non-scientific; says you can't combine certain foods at a meal
  - ✔ Prohibitions result in a low-calorie diet
  - ✔ Nutritional concerns: protein, calcium, zinc, vitamin D

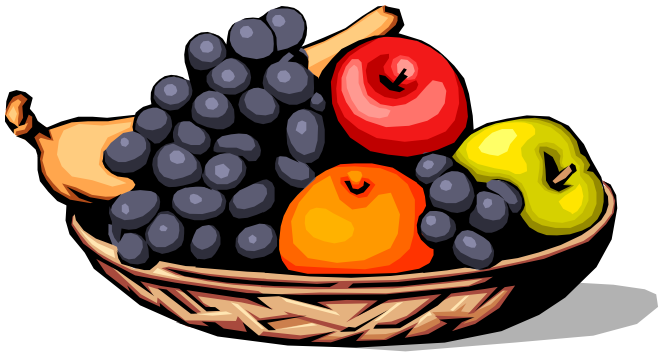
Other Best-selling Diets

- **The (new) Cabbage Soup Diet**
  - ✔ Eat All the Soup You Want
  - ✔ Yum!!! Watch the gas!

What is a Good Diet?



- **Balanced blend of the “Big 3”**
  - ✔ ***Protein, Carb & Fat***
  - ✔ ***Less saturated fat***
- **Abundant micronutrients**
  - ✔ ***Vegetables & Fruits***
- **Plenty of Fiber**
  - ✔ ***Whole Grains***
  - ✔ ***Vegetables***
  - ✔ ***Fruits***



QUESTIONS?